

year, and contributed a number of articles on the birds of Pondoland and East Griqualand to the Journal of the former society between 1907 and 1914. He was also a most accurate and conscientious bird-artist, and many of our readers will remember the series of coloured plates from his brush with which the late Major Horsbrugh's 'Game-birds and Waterfowl of South Africa' was illustrated.

After the war he was stationed at Okanjande in the northern part of the South-West African Protectorate, and wrote an account of the birds which he had there observed and collected for the newly established South African Journal of Natural History. To the pages of 'The Ibis' (1919, p. 167) he contributed an account of *Hieraaëtus ayresi*, which he proved to be identical with Sharpe's *Lophotriorchis lucani*; this was illustrated by a fine plate reproduced from his own painting of this handsome Hawk-Eagle. His premature death at the early age of 46 deprives South Africa of an ornithologist of great promise.

### XXXVI.—*Notices of recent Ornithological Publications.*

#### *Baldwin on Bird-banding.*

[Bird-banding by means of systematic trapping. By Prentiss Baldwin. Abstract of Proc. Linn. Soc. New York, no. 31, 1919, pp. 23-56; 7 pls.]

Mr. Baldwin's bird-marking has been done, not so much with a view to migration work as to study various other questions in regard to the habits of birds. His method is to band adults as well as nestlings, and he obtains his material by systematic trapping with the American Government Sparrow-trap which causes no injury to the birds when taken. The work has been carried out on two farms, one in Ohio and the other in Georgia, in the middle and southern States respectively.

He states that he finds the same individual bird is caught again and again and often several times on the same day. He hopes in the course of time to bring evidence forward as to the length of life of wild birds, and he has already proved

that in many cases birds return to the same spot not only to nest but to winter, and also that birds when migrating often resort to the same feeding places along the migration route year after year. The paper contains full directions for trapping, banding, and recording the observations on a card system so as to easily work up the results.

*Bangs and Penard on new Hawks.*

[Two new American Hawks. By Outram Bangs and Thomas Edward Penard. Proc. New Engl. Zool. Club, vii. 1920, pp. 45-47.]

*Accipiter superciliosus evitosus* from Costa Rica and *Elanus leucurus majusculus* from California are described as new subspecies.

*Bannerman on Congo Birds.*

[On some rare birds from the Belgian Congo, collected by Dr. Cuthbert Christy. By David A. Bannerman, M.B.E., etc. Rev. Zool. Africaine, Bruxelles, vii. 1920, pp. 284-295.]

A collection of birds made in the Uelle river district of north-eastern Belgian Congo for the Tervueren Museum near Brussels by Dr. Christy, consisting of 839 skins referable to 197 species, was prevented from reaching Belgium by the war and was temporarily housed at the Natural History Museum in London. Mr. Bannerman at the request of Dr. Christy examined and identified the specimens contained in the collection, and has in this paper drawn special attention to nineteen of the more interesting species.

*Chapman on new South American Birds.*

[Descriptions of proposed new Birds from Peru, Bolivia, and Chile. By Frank M. Chapman. Bull. Amer. Mus. Nat. Hist. xli. 1919, pp. 323-333.]

[Descriptions of proposed new Birds from Peru, Bolivia, Brazil, and Colombia. Id., Proc. Biol. Soc. Washington, vol. 32, 1919, pp. 253-268.]

The new species described in these two papers are chiefly from among the spoils obtained by the joint expedition of Yale University and the National Geographical Society to the Urubamba district of southern Peru, 1915-17,

and were collected by Messrs. E. Heller, G. K. Cherrie, H. Watkins, and by Mr. Chapman himself.

The following are described in the first paper:—*Microsittace ferrugineus minor*, S. Chile; *Upucerthia dumetoria hallinani*, Chile; *U. dabbenei*, Argentina; *Cinclodes juscus tucumans*, Argentina; *Leptasthenura punctigula*, Argentina; *L. andicola peruviana*, Peru; *Siptornis urubambensis*, Peru; *S. punensis rufala*, Argentina; *Pseudochloris uropygialis connectens*, Peru; *P. olivascens sordida*, Argentina; *Atlapetes canigenis*, Peru; *Diglossa mystacalis albilinea*, Peru; *Oreomanes binghami*, Peru; *Tangara cyaneicollis gularis*, Peru; *Amblycercus holosericeus australis*, Bolivia.

In the second paper:—*Micropus peruvianus*, Peru; *Grallaria watkinsi*, Peru; *Grallaricula boliviana*, Bolivia; *Synalaxis stictothorax plurae*, Peru; *Phacellodomus striaticeps griseipectus*, Peru; *Hylocryptus* (gen. n. Furnariinae) *erythrocephalus*, Peru; *Xenops rutilus connectens*, Bolivia; *Xiphorhynchus triangularis bangsi*, Bolivia; *Thripobrotus layardi madeirae*, Brazil; *T. warscewiczii bolivianus*, Bolivia; *Mecocerculus subtropicalis*, Peru; *Anæretes agraphia*, Peru; *Mionectes striaticollis columbianus*, Colombia; *Myioborus melanocephalus bolivianus*, Bolivia; *Basileuterus luteorividis superciliaris*, Peru; *Pheucticus uropygialis terminalis*, Peru; *Catamenia analoides griseiventris*, Peru.

#### *Collinge's recent papers on Economic Ornithology.*

[Sea-birds: Their relation to the Fisheries and Agriculture. By Walter E. Collinge. 'Nature' of 8 Apl. 1920.]

[The food of the Nightjar. Id., Journ. Ministry Agri. xxvi. pp. 992-995. 1920.]

[Some remarks on the food of the Barn-Owl (*Strix flammea* Linn.). Id., Journ. Wild Bird Investigation Soc. i. pp. 9-10. 1919.]

In the first of these articles Dr. Collinge gives the general results of his investigation into the economics of fourteen of our commonest sea-birds. He condemns unhesitatingly the Shag and Cormorant, whose food consists entirely of fish and chiefly of food-fishes. The Common Tern is placed in class ii., largely fish-eaters but most of the fish not those species utilized for food.

The Black-headed Gull and apparently most of the other birds investigated fall in class iii., which are fish-feeders to less than 20 per cent. of the total food-bulk. Injurious insects form 22 per cent. and marine worms 18 per cent. of the food of the Black-headed Gull, and the bird is undoubtedly more beneficial than harmful.

The second article deals with the Nightjar, which is entirely insectivorous, and 88 per cent. of whose food consists of injurious insects, 12 per cent. of neutral insects, so that it is a most valuable bird and should be rigidly protected, though often persecuted for its supposed relationship to the Hawks.

The third reprint is a note from a new Journal recently started and edited by Mr. Collinge and deals with the Barn-Owl. An investigation of the stomach contents of this undoubtedly valuable bird shows that 68 per cent. of its diet consists of mice and voles, 9 per cent. of birds (sparrows, starlings, etc.), and 9 per cent. of shrews.

#### *Cory on the Dendrocolaptine genus Siptornis.*

[A review of Reichenbach's genera *Siptornis* and *Cranioleuca*, with descriptions of new allied genera and a subgenus. By Charles B. Cory. Proc. Biol. Soc. Washington, vol. 32, 1919, pp. 149-160.]

Mr. Cory proposes to divide the genus *Siptornis* as recognized by Selater (Cat. Bds. Brit. Mus. xv.) and Brabourne & Chubb (Bds. S. Amer. i, p. 332) into five genera and one subgenus, and proposes *Pseudosiptornis* for *S. ottonis* Berlepsch; *Siptornopsis* for *S. hypochondriacus* Salvia; *Siptornoides* for *S. flammulata* Jard.; and *Eusiptornoides* subg. n. for *Synallaxis anthoides* King, as new.

Generic characters and a key to the species now recognized with type-localities and measurements will perhaps ease the task of identification of the forms of this difficult group for future workers.

#### *Dixon on the Wild Ducks of a City Park.*

[Wild Ducks as winter guests in a City Park. By Joseph Dixon. Nat. Geogr. Mag. Washington, D.C., 1919, pp. 331-342, photos.]

The city of Oakland near San Francisco is fortunate enough to possess in its centre a fine park containing a



salt-water lake of almost a square mile in extent. To it resort during the winter months large numbers of wild ducks, estimated at about 5000 at the height of the season. The species most abundantly represented are Canvassbacks (*Marila valisneria*), Pintails (*Dafila acuta*), and Baldpates (*Mareca americana*); there are also many other species as well as Coots, Grebes, and Gulls.

They are of course very carefully protected and are provided with food and water. About four tons of barley were used in 1918-19 over a period of 77 days, and a number of shallow cement drinking-basins are maintained on the lawn along the lake-shore to which the Pintails and Baldpates resort, though they are but rarely visited by the Canvassbacks and other sea-ducks.

Mr. Dixon's account is illustrated with some remarkable and beautiful photographs.

#### *Flower on the Giza Zoological Gardens.*

[Report on the Zoological Service for the years 1914 to 1919, in which are included the 16th to 21st annual reports of the Giza Zoological Gardens, pp. 1-86 and 1-26. Cairo (Govt. Press), 1920.]

Major Flower's reports for the years of the war, 1914 to 1918, are all included in one publication, while that for 1919 is issued separately. These reports deal not only with the Zoological Gardens at Giza, but with the Museum situated in the Gardens, the Aquarium at Gezira, the Zoological Survey, and the preservation of the natural fauna of Egypt—a multiplicity of activities in which the Major is assisted by Messrs. M. J. Nicoll and J. L. Bonhote. From the 1919 report we learn that Mr. Bonhote has resigned his post and returned to England while Mr. Nicoll has completed his 'Hand-list of the Birds of Egypt,' as was noticed in the April number of 'The Ibis.' The Giza Gardens appear to be in a very flourishing condition and are visited by vast numbers of people. As regards protection, the valuable Cattle Egret (*Ardea ibis*) continues to increase, as also does the Little Egret (*Ardea garzetta*) and the resident Egyptian Hoopoe; all of these species have had special efforts directed for their preservation.

*Grinnell's recent papers.*

[The English Sparrow has arrived in Death Valley: an experiment in nature. By J. Grinnell. Amer. Nat. liii. 1919, pp. 468-473.]

[Life-Zone indicators in California. By Harvey Monroe Hall and Joseph Grinnell. Proc. Cal. Acad. Sci. (4) ix. 1919, pp. 37-67.]

The English Sparrow though introduced into the United States in the early sixties, did not spread into southern California till about 1907, when it was noticed at Los Angeles. In 1917 Mr. Grinnell found it on a ranche in Death Valley in southern California at an elevation of about 178 feet *below* sea-level. This spot has a climate of the greatest extreme in the direction of high temperature combined with low relative humidity of any place in North America, and a temperature of 134° Fahrenheit in the shade has been recorded.

Mr. Grinnell has carefully compared the Death Valley Sparrow with others from various parts of the North American continent, and has completely failed to find any peculiarities among them. Some remarks on this natural experiment add to the interest of this note.

The distribution of animals and plants according to Life Zones depending primarily on latitude, humidity and elevation, but largely modified by local disturbing conditions, was first worked out by Dr. Merriam many years ago, and is now generally accepted by American naturalists. In this paper Mr. Grinnell and his botanical collaborator Prof. Hall have given selected lists of plants and animals, including birds, carefully drawn up as characteristic of the different life-zones in California, chiefly for the guidance and assistance of field-naturalists in that State.

*J. H. Gurney's Ornithological Report.*

[Ornithological notes from Norfolk for 1919. 26th annual report. By J. H. Gurney. British Birds, xiii. 1920, pp. 250-268.]

The most interesting feature of Mr. Gurney's last annual report is the account of the great mortality which occurred among the Rooks arriving on the Norfolk coasts from the sea about the end of October. A very strong easterly gale

prevailed between October 28 and 30, and on the following days very large numbers of Rooks, and of some other birds, such as Hooded Crows, Starlings, Redwings, were picked up along the beaches of Norfolk and north Suffolk from Sheringham to Southwold. Only two Spoonbills visited Breydon during the spring, but the report on the Bittern is much more favourable and it appears to have established itself fairly securely on some of the Norfolk Broads as a breeding bird.

*R. Gurney on the Black-headed Gull.*

[Breeding Stations of the Black-headed Gull in the British Isles. By Robert Gurney, M.A., etc. Trans. Norf. Norwich Nat. Soc. x. 1919, pp. 416-447.]

In this paper Mr. Robert Gurney has put together all the information he has been able to collect in regard to the nesting places or gulleries of *Larus ridibundus*. New gulleries are frequently formed and old sites deserted, but Mr. Gurney is of opinion that this Gull is distinctly on the increase in the British Isles, a fact which may be viewed with considerable satisfaction.

As regards England there appears to be no breeding colonies in any of the central counties south of Yorkshire. One of the best known of the gulleries is the one at Scoulton in central Norfolk, which has been known since the time of Sir Thomas Browne (1605-1682), who first described it. The colony appears to be fairly constant in number, and Mr. Gurney estimates the number of birds as about 2500.

*Harper on a new Hedge-Sparrow.*

[A new subspecies of *Prunella modularis* from the Pyrenees. By Francis Harper. Proc. Biol. Soc. Washington, vol. 32, 1919, pp. 243-244.]

The Pyrenean Hedge-Sparrows collected by Mr. Harper in April last year at an altitude of 1700 metres (about 5100 feet), in the Dept. of Pyrénées Orientales, were found by him to be considerably greyer and less rufescent on the back and wings than those of the typical form from central

Europe or the British race, *Prunella m. occidentalis*. Mr. Harper describes the Pyrenean bird as new and calls it *Prunella modularis mabbotti*, after Mr. D. C. Mabbott, an American ornithologist who was killed in the war in France.

*Hartert on the Palearctic Birds.*

[Die Vögel der paläarktischen Fauna. Von Dr. Ernst Hartert. Heft ix. pp. 1089-1216, Oct. 1914, and Heft x. pp. 1217-1344, March 1920. Berlin (Friedländer).]

We are very glad to receive two parts of Dr. Hartert's great work on Palearctic birds and to hear that there is every prospect of the second volume being shortly completed. The manuscript is, we understand, all ready for printing and the concluding parts will be issued as soon as possible.

The first of the two parts now noticed was published just after the outbreak of the war and only one copy, that in the Bird-room of the Natural History Museum, reached this country at the time of publication. It contains the account of the Birds of Prey except the genus *Falco*. The tenth part, recently issued, deals with the Storks and Herons, forming Dr. Hartert's Order Gressores, and the Anseres, in which only one family is recognized. In accordance with Dr. Hartert's well-known views, the limits of many genera are extended beyond the common usage; for example, the Snow Geese (*Chen*) are merged with *Anser*, and all the fresh-water Ducks except the Shoveler and the Mandarin are placed in *Anas*. The Sacred Ibis bears the generic name *Threskiornis*, the generic name *Ibis* being transferred to the Wood Ibis, formerly known as *Tantalus*. This change, we believe, is inevitable if the rules of zoological nomenclature are to be adhered to, but it seems illogical to call the Ibis family Ibididæ if the generic name *Ibis* is transferred to the Wood Ibis, which is a true Stork.

We find two new subspecies tucked away in small print on page 1251—*Butorides striatus degens* from the Seychelles, and *B. s. moluccarum* from the Moluccas. In our opinion it would be more convenient to workers if such descriptions appeared first in a general Magazine or Journal of

Ornithology, especially as they have nothing to do with the Palearctic Fauna.

Finally, we should like to draw the attention of our readers to the life-histories and the notes on the nests and eggs which form an important feature of Dr. Hartert's work, though frequently overlooked. The Vög. pal. Fauna is so generally used for identification, distribution, and correct nomenclature that these notes, necessarily much condensed, are often neglected; like the rest of the work they are most carefully compiled and authoritative.

We look forward to the early completion of this most valuable work.

#### *Kuroda on new Japanese Birds.*

[Descriptions of five new forms of Japanese Pheasants. By Naganichi Kuroda. Dobuts. Zasshi (The Zoological Magazine), Tokio, xxxi. 1919, pp. 309-312.]

[Descriptions of three new birds from the southern Islands of Japan. Id., ibid. pp. 231-233.]

The first of these papers by our foreign member Mr. Kuroda contains, in Japanese, a review of the Pheasants found in Japan; attached to this in English are descriptions of *Phasianus versicolor robustipes* from the island of Sado and the north-western parts of Hondo, *P. v. kiusiuensis* from the southern island of Kiusiu, and *P. v. tanensis* from the island of Tanegashima; *P. sammerringi subrufus* from the warmer district of the Pacific side of Hondo, and *P. s. intermedius* from the island Shikoku.

In the second paper are described, in Japanese and English, *Halcyon miyakoensis* from the Loochoo Islands, a very distinct form; *Parus varius sunsumpi* from Tanegashima, one of the southern islands of Kiusiu, and *P. v. yakushimensis* from Yakushima, also one of the southern islands of Kiusiu.

#### *McGregor's list of the Genera of Birds.*

[Index to the Genera of Birds. By Richard C. McGregor. Pp. 1-185. Manilla (Bureau of Printing), 1920, 8vo.]

In this useful and laborious compilation Mr. McGregor



has endeavoured to index all the generic and subgeneric names proposed for birds up to the end of 1915, with references to Bonaparte's *Conspectus*, Gray's *Hand-list*, the *Catalogue of Birds*, Sharpe's *Hand-list*, Dubois's *Synopsis*, and Richmond's three well-known supplementary lists of generic names.

The list contains 8839 names, while that compiled by Waterhouse in 1889 contains "over 7000," according to the preface of the work. It seems curious that no allusion is made to the last-named volume, which must surely be well known to the author.

The present list will undoubtedly be of very great use to all systematic workers, to whom we heartily commend it.

*Mathews on Australian Birds.*

[The Birds of Australia. By Gregory M. Mathews. Vol. viii. parts i., ii. pp. 1-144, pls. 22. London (Witherby): May, June, 1920. 4to.]

The author has now arrived at the Order Passeriformes, on which he gives us a dissertation several pages long. In this, while there is nothing very new, there is much which it is well constantly to recall, especially as regards the meaning of the terms genus, species, and subspecies, and the position of such groups in the Order.

Mr. Mathews does not wish to ignore anatomical facts, and indeed complains of the lack of such work on aberrant Australian forms; but he considers that classifications founded solely on anatomy are apt to be misleading, while, as we know, he believes strongly in colour pattern as a guide to differentiation, even in the higher groups. He thinks it likely that Australian forms may have to be segregated from their nearest, or apparently nearest, extralimital allies; but, until the cases come to hand, he follows the families admitted by Sharpe in his *Hand-list*.

These parts of the work include the Pittidæ, Atrichornithidæ, Hirundinidæ, and Muscicapidæ. In his summary of the first family Mr. Mathews feels great doubt whether the peculiarities of the syrinx alone are sufficient to make us

create a special family to include them along with the Philepittidæ and Xenicidæ, and hints that other peculiar birds are proved to have an equally peculiar syrinx. As *Pitta versicolor* of Swainson antedates *P. strepitans* of Temminck it is accepted, while *P. simillima* is shown to be but one of three subspecies. Under *Erythropitta macklotii* and *Pulchripitta iris* subspecies are at present dropped, as these birds in each case vary much.

Everyone should read for themselves the account of the curious *Atrichornis* (Scrub-bird) and its habits; especially as it is now considered to be a degraded Passerine form rather than an ally of the Lyre-bird. The nest and eggs have recently been found, while the female has been discovered since Mr. Mathews's article was written. It should also be noticed that the western form, now separated from the eastern, is called by the author *Rahcinta*.

The Hirundinidæ are so ancient a family that almost every species might constitute a separate genus, and this is certainly so in Australia. First there is the Welcome Swallow (*Hirundo neoxena*), confounded of old with *H. javanica* and its western form *H. carteri*. Next *Cheramœca leucosternum* with three subspecies, where the confusion of the habitats has been cleared up. Thirdly, *Hylochelidon nigricans* and *Lagenoplastes ariel* with five and two subspecies respectively.

Under the family Muscicapidæ we find another general dissertation as to the value of the genera and consequently their names; some may have to be reduced to subgenera. It seems certain that there are two series of Muscicapine birds in Australia, one of which only reached the northern districts.

We cannot, of course, discuss all the species and subspecies in this huge family, but may mention some of the facts to which attention is specially drawn. The synonymy of *Micrœca fascinus* is a case in point, for Latham placed it under *Loxia*, and many authors, including Hartert, have been at variance about the subspecies, of which seven are now recognized, though only two are given of *M. brunneicincta*. *Kempia flavigaster* has five subspecies, one of which is extralimital.

*Petroica* is a most interesting genus in the larger sense, for Mr. Mathews divides it into no less than seven genera, each containing a single species. They are the so-called Robins of Australia, the majority of which have a red or crimson breast. It is curious that *P. multicolor* was originally described from Norfolk Island and its correct name is "hoodang." There are five subspecies of this bird and of *P. (Whiteornis) goodenovii*, but only three of *P. (Littlera) chrysoptera*, and two of *P. (Erythrodryas) rhodinogaster* as well as of *P. (Belchera) rosea*.

These "Robins" are much like Chats in their habits, and this is equally true of *P. (Melanochryas) cucullata*, a pied form of which the author recognizes six races. *Amaurodryas* is the last of the *Petroica* forms, which Gould described from Tasmania as *fusca*, but had to allow that Quoy and Gaimard's *vittata* had priority. Curiously, there are three races; they all come from Tasmania and the adjacent islands.

Of *Smicrornis* only one species (*brevirostris*) is allowed, *flavescens* being reduced to the company of eleven other subspecies; but one of these is new, *S. b. mallee* from Victoria. *Gerygone olivacea* occurs in four races, while finally *G. (Wilsonavis) fusca* becomes *W. richmondi*, as Gould's name *fuscus* does not apply to this bird. Moreover, a new subspecies (*gouldiana*) is separated, from New South Wales.

#### *Penard's recent papers.*

[Some untenable names in ornithology. By Thomas Edward Penard. Proc. New England Zool. Club, vii. pp. 21-22. 1919.]

[Two new birds from Roraima. Id., ibid. pp. 29-31.]

[The name of the Common Jungle-Fowl. By Outram Bangs and Thomas Edward Penard. Ibid. pp. 23-25.]

[Remarks on Beebe's 'Tropical Wild Life.' By T. E. Penard. Auk, xxxvi. pp. 217-225. 1919.]

[Revision of the genus *Buthraupis* Cabanis. Id., ibid. pp. 536-540.]

[The name of the Black Cuckoo. Id., ibid. pp. 569-570.]

In the first paper Mr. Penard shows that the name *Planchesia fusca* (Bodd.) is untenable, and proposes a new name *P. pullata* for this South American Flycatcher. He

also draws attention to the fact that *Muscicapa sibirica fuliginosa* (Hodgson) must be known as *M. s. cacabata* nom. nov.; *Muscicapa ferruginea* (Hodgs.) as *M. cinereiceps* (Sharpe); and *Eophona melanura melanura* as *E. migratoria pulla* nom. nov.

In the second paper Messrs. Bangs and Penard discuss the name of the Common Jungle-fowl, and following the views of Ogilvie-Grant and Kloss, and in opposition to those of Hartert, Blanford, and Baker, they accept the specific name *gallus* and designate Bengal as the type-locality.

Two new subspecies, *Chloronerpes rubiginosus roraimæ* and *Tanagra violacea rodwayi*, are described from Mt. Roraima and British Guiana in the third note.

Mr. Beebe's 'Tropical Wild Life' was noticed in 'The Ibis,' 1918, p. 187, and in the fourth paper of the list Mr. Penard points out that some of Mr. Beebe's discoveries have been anticipated by previous naturalists and explorers, and that the curious differences in the habits and structure of the tarsi of the larger and smaller Tinamous were noticed by Charles Waterton nearly a hundred years ago.

In his revision of the genus *Buthraupis* Mr. Penard divides this composite group into three genera, proposing *Cnemathraupis*, type *C. eximia* (Boisson.), and *Bangsia*, type *B. arcaei cœruleigularis* (Cherrie), as new, and retaining *Buthraupis* Cab. for *B. montana* (d'Orb. & Lafres.) and the species allied to it. Full generic diagnoses are given.

In the last note the name of the Indian Black Cuckoo is shown to be *Eudynamys scolopacea* (Linn.) instead of *E. orientalis*.

#### *Rowan and others on the eggs of the Common Tern.*

[On the nest and eggs of the Common Tern (*S. fluviatilis*). A cooperative study. W. Rowan, E. Wolff, and the late P. L. Sulman, field-workers; Karl Pearson, reporter, etc. Biometrika, Cambridge, xii. 1919, pp. 308-354, 5 pls.]

This is an elaborate metrical study on 1110 eggs of the Common Tern collected in July 1914. Comparisons with the results obtained in the previous year and published in the 10th volume of the same journal are given.

Such characters as change of type of egg with season, associations of nest and egg patterns, of nests and eggs, of green or brown colour, and mottling with size and shape of the eggs, are all considered and worked out with tables and mathematical formulæ and equations.

Less difficult to understand are some good photographs of the birds themselves as well as their nests, while the chief types of the eggs are figured in colours.

It is impossible in a short notice to analyse the results obtained, and we would refer those of our readers who are interested in such studies to the paper itself.

*Shufeldt on the Monkey-eating Eagle.*

[Osteological and other notes on the Monkey-eating Eagle of the Philippines, *Pithecophaga jefferyi* Grant. By R. W. Shufeldt. Philippine Journ. Sci. xv. 1919, pp. 31-58, 11 pls.]

But little is known of the anatomy and affinities of *Pithecophaga*, one of the most remarkable forms of Accipitrine birds, discovered by the late Mr. John Whitehead in the Philippine Islands, and described and figured in 'The Ibis,' by Mr. Olgivie-Grant in 1897. Dr. Shufeldt's study on the osteology of this eagle is based on the skeleton of a bird which died in captivity in the Botanical Garden at Manilla, and which was sent to him thence by Mr. McGregor. A full description of the skull and other bones is given and comparisons made with other large Accipitrine birds. Unfortunately Dr. Shufeldt was unable to secure a skull of the large South American Harpy Eagle, *Thrasaëtos harpyja*, for comparison, though he obtained the loan of an incomplete skeleton. He comes to the conclusion that so far as his osteological material permitted him to form one, that *Pithecophaga* is most nearly allied to *Thrasaëtos*. The memoir is illustrated with reproductions of photographs of the bones both of the Monkey-eating Eagle as well as of those used for the comparisons.

This memoir adds considerably to our knowledge since, so far as we are aware, nothing previously had been published in regard to the osteology of this bird.



*Stresemann and Sachtleben on the Willow-Tit.*

[Ueber die europäischen Mattkopfmeyen (Gruppe *Parus atricapillus*). Von E. Stresemann und H. Sachtleben. Verhandl. Orn. Ges. Bayern, xiv. 1920, pp. 228-269.]

Messrs. Stresemann and Sachtleben have prepared an elaborate memoir of the various races of the Willow-Tit found throughout Europe. Following Dr. Hartert they regard these races as subspecific forms of the American Chickadee (*Parus atricapillus*) found throughout the greater part of North America, and as quite distinct specifically from the Marsh-Tit (*Parus palustris*), which superficially it so closely resembles,

After commenting on the distribution of the species in its widest extent, its relation to *P. palustris*, its plumage development, sexual differentiation, and the variation caused by climatic conditions, the authors recognize seven distinguishable European races. A good summary of the conclusions and results of the investigation conclude an interesting, thoughtful, and thorough piece of work.

*Witherby's Handbook of British Birds.*

[A practical Handbook of British Birds. Edited by H. F. Witherby. Vol. i. pp. xvi + 532, 17 pls. and numerous text figures. London (Witherby), 1919-1920, 8vo.]

We must heartily congratulate Mr. Witherby and his band of helpers, Dr. Hartert, Miss Jackson, the Rev. F. C. R. Jourdain, Mr. Oldham, and Dr. Norman Ticehurst, on the completion of the first volume of the Practical Handbook.

On all sides it appears to be recognized that it contains a vast amount of reliable information packed into a comparatively small compass, and that it fills a distinct want. The first part issued was noticed in the April 'Ibis' of last year (p. 351), and we do not therefore propose in the present volume to add much to what we there wrote.

The classification adopted, for which no doubt Dr. Hartert is responsible though it is not so stated officially, follows that of the 'Vögel paläarktischen Fauna,' and the Flycatchers,

Thrushes, and Warblers are all placed together in one family—Muscicapidæ; the Hedge-Sparrows and the Dippers and Wrens being kept apart. There can be no doubt that Flycatchers, Thrushes, and Warblers are difficult to distinguish, but the excellent character of the juvenile plumage, first suggested by Blandford, is undoubtedly a valuable and fundamental one and should, in our opinion, be made use of.

One other point we should like briefly to refer to. This is in regard to the generic name of the Waxwings. The name used in the present work is the less familiar *Bombycilla*, also adopted in the A. O. U. Check-list. If Dr. Hartert or any of our readers who are interested in the matter will refer to the note in the B. O. U. list of British Birds (p. 362), it would appear that there is ample grounds for retaining the use of the more familiar *Ampelis* without having to resort to the process of "elimination for type-fixing of generic names" as suggested in a note on p. 278 of the present volume.

#### *The Auk.*

[The Auk. Vol. xxxvi. for 1919, 4 nos. Cambridge, Mass.]

'The Auk' for last year contains 668 pages as compared with 826 in 'The Ibis' for the corresponding year. The larger size and somewhat smaller type of 'The Auk' make up for this, and it probably contains quite as much reading matter as our own Journal. With the limited space available it is impossible even to mention the titles of all the papers, and it will be necessary to restrict our observations to those of more general interest.

Mr. A. Wetmore has made an interesting discovery of the existence on the palate of the Icteridæ of a median sharp-edged ridge, and has observed one of the Grackles (*Quiscalus*) making use of this for shelling acorns. In the case of one of the Mexican Orioles (*Icterus gularis*) the palate is provided with a knob-like process not found in other members of the genus, and he proposes to draw attention to this peculiarity by separating this bird under

the generic name *Andriopsis* proposed many years ago by Cassin. Another paper is that by Mr. W. de W. Miller on the systematic position of *Anseranas semipalmata*, the Australian Pied Goose. So remarkable are the anatomical peculiarities of this bird that, in Mr. Miller's opinion, it is entitled to family rank.

The native avifauna of the Hawaiian Islands is on the verge of extinction, but there is, according to Mr. V. MacCaughy, one native bird which is still fairly abundant. This is the Elepaio (*Chasiempis*), an aberrant Flycatcher, of which there are three distinct forms inhabiting three separate islands. Mr. MacCaughy discusses the habitats, nesting and other habits, calls and songs, of this form, and endeavours to explain its present distribution from the past geological history of the island group.

Among regional or faunal papers, Mr. P. A. Taverner records his experiences and explorations on the Red Deer river of Alberta, down which he travelled in a "scow-shaped boat with a portable motor a distance of some 217 miles." The fruitful Okanagan valley of British Columbia is dealt with by Mr. J. A. Munro, while Messrs. P. B. Philipp and B. S. Bowdish have continued their explorations of New Brunswick and have photographed some rare nests, especially that of the Cape May Warbler (*Dendroica tigrina*). Mr. W. J. Erichsen has explored the coastlands of Georgia, and Major C. H. Pangburn the swamps and bayous of western Florida. Lastly, Mr. T. D. Burleigh, who was stationed in the Landes district of south-western France during the war in connexion with forest work, has a wonderful list of ninety birds, all of which appear to have been recognized by sight alone.

Two papers by Mr. I. M. Loomis deal with dichromatism. In the one is figured a remarkable instance in the case of the dark- and light-coloured nestlings of *Diomedea irrorata*, the Albatross breeding in the Galapagos, as well as the variation in size and shape of the bills of the adults. In the other paper the light and dark forms of the Wedge-tailed Shearwater (*Puffinus chlororhynchus*) are figured and discussed.

Mr. Loomis believes that these variations should be treated on the subspecies basis equally with geographical races or variations.

Among new forms described perhaps the most striking is the discovery by Mr. F. H. Kennard of a new form of Blue-winged Teal (*Querquedula discors albinucha*) which he found in Louisiana: it is apparently a resident in the southern States, and remains to breed when the ordinary typical form has gone further north in spring. Only the adult males appear to be distinguishable; the white of the crescent-shaped mark in front of the eye is continued back along the side of the head to the nape, a character clearly indicated in a plate accompanying the description.

Other new North American races described are *Piranga hepatica oreophasma* Oberholser, from S.W. United States to U. Mexico; *Hedymeles melanocephalus papago* Oberholser, from the Rocky Mts. region; and *Thryospiza mirabilis* Howell, from Cape Sable, Florida. Three short papers by Mr. Cory contain descriptions of new South American forms, including two new genera, *Xenicopsoides* for type *Anabazenops variegaticeps* P. Sel., and *Euphilydor* for type *Philydor lichtensteini* Cab. & Hein. Mr. Oberholser continues his series of Notes on North American Birds, dealing chiefly with the question whether certain forms should be regarded as subspecies or full species, and he also prints the fourth list of the proposed (but not yet adopted) changes in the A.O.U. Check-list.

A biographical notice with portrait of Mrs. Olive Thorne Miller, a well-known popular writer on birds as well as on other subjects, who died at the age of 87, the oldest member of the Union, is contributed by Mrs. Bailey. Mrs. Miller wrote 780 articles and 24 books, eleven of them on birds. In another biographical article by Mr. Stone all the information available is collected about Jacob Post Gerard (1811-1870), a somewhat mysterious and elusive personality. He was the author of "The Birds of Long Island," 1844, and of "Sixteen new birds from Texas," 1841, both now excessively rare works; the latter is not in the British

Museum (Nat. Hist.) library. He gave his collections and a legacy of \$30,000 to Vassar College, the well-known institution for the higher education of women.

### *Avicultural Magazine.*

[The Avicultural Magazine, being the Journal of the Avicultural Society for the study of Foreign and British Birds in freedom and captivity. 3rd ser. Vol. x, 14 nos. Nov. 1918 to Dec. 1919.]

The volume of the 'Avicultural Magazine' for last year contains fourteen numbers, so as to make each volume in future correspond to the calendar year—an excellent change. We also notice that a decided effort is being made to amalgamate the Magazine with 'Bird Notes,' the organ of the Foreign Bird Club. We hope that this may be brought about, as it will then be possible to concentrate the material and effect considerable economies by publishing only one magazine instead of two, for which there seems hardly enough demand.

The volume before us contains a number of articles from former contributors, such as Dr. Butler, Mr. W. Shore Baily, and Mr. Astley, but we regret to notice how frequently the editor, Mr. Graham Reushaw, has had to resort to paste and scissors, and to reprint articles from American and Australian sources.

Dr. Butler and Dr. V. C. L. van Someren run a tilt on the old controversy of the change of colour in grown feathers, and discuss the cases of *Pyromelana* and the turacin pigment of the Touracos. Mr. Hopkinson concludes his account of the Pigeons of the Gambia, and Lieut. Delacour writes on the flourishing state of the Zoological Gardens at Cologne, which he contrasts with his own devastated aviaries on his estate at Villers-Bretonneux. An interesting note by Miss E. Maud Knobel deals with the moult of the outer tail-feathers of an Alexandrine Parrot, of which careful record has been kept each year from 1915 to 1919. During this time the date of shedding has advanced from June 8 to July 8, and the length of the feathers has increased from  $13\frac{3}{8}$  and  $13\frac{1}{8}$  inches right and left in 1915 to  $14\frac{1}{2}$  and  $14\frac{1}{8}$  inches in 1919.



Mr. W. H. St. Quintin wins the Society's medal for the successful breeding of the Lesser White-footed Goose in captivity in Britain for the first time, and M. Decoux the Society's prize for his account of the breeding of hybrid Melba Finch  $\times$  Crimson-eared Waxbill.

The volume is illustrated by a number of very successful photographs, but it has not yet been found possible to issue any coloured plates.

*The Bombay Journal.*

[The Journal of the Bombay Natural History Society. Vol. xxvi., parts 1-4. Dec. 1918-Jan. 1920.]

The Bombay Journal for 1919 forms a stout volume of over a thousand pages, and contains a great deal that is of interest to the ornithologist as well as to students of other branches of natural history. Four parts of Mr. Stuart Baker's monograph of the Indian Game-birds deal with the Cheer, the Fire-back Pheasants, the Monals, and the Tragopans, and are illustrated with fine coloured plates of *Catreus wallichii*, *Lophophorus impejanus* (plate labelled *L. refulgens*), and *Tragopan blythi*.

Mr. C. H. Donald continues his account of the Birds of Prey of the Punjab. It is a useful paper dealing with fifty-six out of the eighty-two known Indian species, and contains keys, descriptions, and notes on habits, while the task of identifying the birds on the wing is rendered more easy by a series of outline diagrams of the birds as seen when flying directly overhead. Mr. H. Whistler completes his list of the birds of Ambala, and contributes two others on the birds observed by him in the Ludhiana district and near Fagoo—the first two localities in the plains and the last in the Himalaya of the Punjab. Capt. C. B. Ticehurst describes a new Bulbul from Mesopotamia, *Pycnonotus leucotis mesopotamia*, and in another paper enumerates eight races of the Common Starling occurring in Asia besides mentioning five others of uncertain status. Mr. A. E. Jones enumerates the birds of the Simla hills, and Messrs. Inglis, Travers, O'Donel and Sherbearc the vertebrates of the Jalpaiguri

district of Bengal, lying at the foot of the Himalaya. It seems a pity that these two last lists do not contain more precise information of the exact height at which the birds nest. There is ample opportunity for more work on the altitudinal distribution of Himalayan birds on the lines of the zonal work carried out so completely in North America, more especially as it is in this region that the Palearctic and Indian faunas meet.

*'British Birds' Magazine.*

[British Birds: An illustrated Magazine, etc., etc. Vol. xiii., 12 nos. June 1919-May 1920.]

This is a very good volume of 'British Birds,' and contains a very large number of valuable contributions. Miss Turner records a number of further details of the nesting habits of the Bittern in the Norfolk broads, with a list of nests watched and a good series of her well-known photographs. There seems no reason why the Bittern should not be completely and permanently re-established as a breeding bird in England. Mr. J. S. Huxley sends a short notice of the drumming habit of the Spotted Woodpeckers, which is undoubtedly due to a rapid series of blows on a dead log with the beak. A very similar habit often observed by Mr. Huxley is characteristic of the American Red-headed Woodpecker (*Melanerpes erythrocephalus*). Another paper by the same author deals with the sexual habits of the Little Grebes. As these birds have no tufts or special sexual plumage adornments, he finds that vocal ducts appealing to the ear appear to take the place of the dance-like displays appealing to the eye which characterize the other Grebes.

Mr. E. Chance contributes some detailed observations on the Cuckoo. Between May 18 and July 5 he found eighteen nests of the Meadow-Pipit in a restricted area in Worcestershire, in which he believes a single individual Cuckoo had deposited her eggs. He believes that the clutch of a Cuckoo depends on the facilities afforded and that the number of eggs laid is quite indefinite. It would perhaps have been better if Mr. Chance had confined himself to observation, but he tried a good many experiments in the matter of

removing and exchanging eggs in the nest, which must bring into play other factors and cause unnatural conditions.

Mr. C. Suffren has invented an ingenious diagrammatic method of recording migration as observed in the Mediterranean. He believes that apart from the well-known Gibraltar-Marocco line there are at least three other air routes across the Mediterranean, *i. e.*, Riviera, Corsica, Sardinia, Cape Bon; Italy, Sicily, Malta, Tunis; and Greece, Crete, Egypt.

The nesting habits of the Black-necked Grebe on the Tring reservoirs are illustrated and described by Mr. O. G. Pike; those of the Oyster-catcher in the Tay valley by Mr. J. M. Dewar, and those of the Storm Petrel among the Hebrides by Miss Audrey Gordon; and finally, Col. Feilden contributes some photographs of the nest, eggs, bird and nest-site of the Knot, obtained in Grinnell Land in 1908-9 by Admiral Peary when he travelled to the North Pole. Col. Feilden himself found young birds in down, but no eggs, on almost the same spot thirty years previously in 1876, when naturalist to the British Arctic Expedition.

The longest article in the volume is that of Dr. Norman Ticehurst on the birds of Bardsey Island, off the north-western coast of Wales. In company with Mr. J. K. Stanford, he visited the island twice in 1913, and the results of his observations, especially of the autumn migratory movements, extend over six numbers of the magazine.

A black-letter pamphlet published in 1586 contains what is probably the earliest account of the Ruff as it was then commonly found in Lincolnshire. A wood-block in the pamphlet illustrating the bird was almost entirely copied by Aldrovandus in his *History of Birds* published at Bologna in 1603. This pamphlet is described by Mr. W. H. Mullens, who possesses an unrivalled library of British Bird-books.

The American Goshawk, though recorded in Scotland and Ireland in 1869 and 1870, was not recognized as British by Saunders. It was placed in the appendix of "uncertainties" in the B. O. U. list. A new record of an example killed in county Tyrone, Ireland, in February 1919 is made by

Mr. W. J. Williams. Another British bird is newly named by Mr. Witherby. He proposes to separate the Little Owl of north Europe from Hamburg to Holland from the typical form of southern Europe, on account chiefly of its darker colour, under the name *Athene noctua mira*. It is the new subspecies which has been introduced and which has spread all over the south and east of England of late years. There are some other changes in nomenclature and status for inclusion in the third supplement to the 'Hand-list of British Birds.'

Finally, we must add a few words about the British Birds marking scheme. Two reports, for 1918 and 1919, appear in the volume. The number of birds ringed in the last-named year shows a falling off, but still there are many interesting results. A Swallow ringed in Yorkshire as a nestling in August 1918 was recovered in East Griqualand, Cape Colony, in February 1919. This is the fourth instance of such an occurrence. In another paper prepared by Mr. Witherby himself, he has brought together a number of very interesting results collated from the reports up to date in regard to certain species of birds. Undoubtedly this method of working has added to our knowledge of the movements of our British birds when they leave these shores.

#### *French Review of Ornithology.*

[Revue Française d'Ornithologie Scientifique et Pratique. 11<sup>e</sup> Année, nos. 117-128. Jan.-Dec. 1919.]

M. Menegaux has managed to keep his excellent Journal going throughout the war, but we notice that he has now found himself compelled to raise the subscription from ten to twenty francs a year, owing to the enormous rise in the cost of book-making.

The volume for 1919 contains a number of useful and interesting contributions, but we fear we can only mention a few of them. There are several articles dealing with the protection of birds especially in the south, where destruction by nets and guns seems much more severe than in the north,

and MM. A. Godard, J. Bailly Maitre, and A. Hugues all send articles on this important question. In this connection moreover, we are glad to notice that the Flamingo is to be specially protected in future in its breeding-places at the mouth of the Rhone.

In most birds the wing of the bird is about three to five times the length of the tarsus. M. M. Bouvier has drawn up a table showing this correspondence, and points out that in the long-winged birds the tarsus becomes very much shorter in proportion: for instance, in the Swallow the wing is twenty-five times the length of the tarsus; and in the short-winged birds the reverse is the case, as, for instance, in the Stilt the wing is about twice the length of the tarsus. Another paper by the same author deals with the distribution of the Penguins, and endeavours to explain some of the remarkable facts.

An important paper by Dr. A. Rochon-Duvigneaud contains an exposition on bird vision, in regard to which he is endeavouring to throw more light. At the end of the paper is a "questionnaire" asking for information and observations on various moot points.

M. Menegaux himself has collected a good deal of information on the alleged disappearance of the Common Sparrow in many parts of the south of France; he has also completed his account of a collection of birds made at Misiones in Argentina. M. J. L'Hermitte has some notes on the birds of Grenoble (Isère) and of Lantaret (Hautes Alpes); Mr. G. R. Mayfield of Tennessee, U.S.A., gives a list of 102 birds observed by him near Sézanne in Champagne; and M. P. Bédé notices the occurrence of the Cormorant at Sfax in Tunisia and discusses the subspecies. Finally, M. E. Simon proposes with diagnoses and types fifteen new genera of Humming-birds (Trochilidæ).

*Rivista Italiana di Ornitologia.*

[*Rivista Italiana di Ornitologia.* Anno Quinto. MCMXIX. Published 1920.]

We are glad to receive a new part of the Italian ornithological journal, the publication of which has been somewhat



irregular of late, and the present one contains a number of interesting articles, though we miss the name of Count Salvadori from among those of the contributors.

Sig. A. Trischitta writes on the occurrence of *Phalacrocorax pygmaeus* on the coast of Sicily, and also on the recorded examples of the three species of Skua in the same seas. Sig. G. Vallon has an article on the effects of the war in northern Italy on nidification and migration, and also sends a diary of his ornithological rambles in the Friuli region in the north-eastern corner of Italy.

A fine collection of Italian birds recently bequeathed to the University Museum of Bologna affords Sig. E. Ninni an opportunity to describe two hybrids—*Anas boscas* × *Dafila acuta* and *Fringilla montifringilla* × *F. coelebs*. He also illustrates and describes some curious monstrosities of beaks and legs, chiefly among Larks. Another paper dealing with hybrids is by Prof. A. Ghigi, whose studies have been made on the results of crossing the domestic pigeon with *Columba leuconota*. He believes that some of the oriental races of domestic pigeons have had their origin, at any rate in part, from *C. leuconota*. Finally, Dr. N. Alippi has a long article on the birds of accidental occurrence in Italy and of their value in migration work; data as to the season and place of arrival and whence and under what conditions they arrived are given, and these data are illustrated with a number of outline maps.

### *Scottish Naturalist.*

[The *Scottish Naturalist*. A monthly magazine devoted to Zoology. 1919. Six double numbers, 85-96.]

Like other journals, the 'Scottish Naturalist' has had to reduce its output and now appears in bi-monthly numbers six times a year. As usual, its pages contain a considerable proportion of ornithological matter. Mr. F. S. Beveridge completes his list of the birds of North Uist, and Mr. D. Guthrie, who has spent some twenty-two years on the island, sends some notes on the birds of South Uist where, however, only ten Passerine birds are noted. The Editor (and our

President), Dr. Eagle Clarke, has found an interesting notice in an old Scots history—The Scotichronicum—to the effect that a pair of White Storks nested on the top of the tower of St. Giles Church in Edinburgh in 1416, and after bringing up their young disappeared again. This seems to be the only record of the breeding of the Stork in the British Islands. Mr. Wm. Evans opens a discussion on the often-disputed statement of the Woodcock carrying away its young when the nest is disturbed. Though not denying that Woodcock may sometimes do so, his experiences lead him to believe that in most cases they “feign” to do so in order to attract attention away from the nest, where the young birds remain all the time. Mr. Wm. Evans and also the Misses Baxter and Rintoul contribute articles on the nesting of the Crested Grebe in Scotland, where of recent years it has become much more plentiful; the two ladies have collected and codified both locally and chronologically all the information available.

As usual, the July–August number is devoted to the Report on Scottish Ornithology for 1918 prepared by the Misses Rintoul and Baxter; in this are included accounts of migration movements and ringing results, extensions of breeding range, notes on birds new to faunal areas, and extensions of breeding ranges and other information, all codified and arranged for easy reference.

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*List of other Ornithological Publications received.*

- CHAPMAN, R. Unusual types of apparent geographic variation in color, etc. (Proc. Biol. Soc. Washington, vol. xxxiii. pp. 25–32.)
- CORY, C. B. Catalogue of Birds of the Americas. (Pt. ii. no. 2. Chicago, 1919.)
- GRINNELL, J. Notes on the Elegant Tern as a bird of California. (Condor, xxi. pp. 230–234.)
- GRINNELL, J. Sequestration Notes. (Auk, xxxviii. pp. 84–88.)
- HELLMAYR, C. E., and LAUBMANN. Nomenclator der Vögel Bayern. (München, 1916.)
- HELLMAYR, C. E., and LAUBMANN. 10 reprints from Verhandl. Orn. Ges. Bayern, vols. xii.–xiv.

- LÖNNBERG, E. The Birds of the Juan Fernandez Islands. Notes on Birds from Easter Island. (From 'The Natural History of Juan Fernandez and Easter Island,' edited by Carl Skottsberg, vol. iii.)
- MCCLYMONT, J. R. Essays on Early Ornithology. (London, 1920.)
- MULLENS, W. H., SWANN, H. K., and JOURDAIN, F. C. R. A Geographical Bibliography of British Ornithology. Pt. 6. (London, 1920.)
- OORT, E. D. VAN. Ornithologia Neerlandica. Pts. 3-8. ('s Gravenhage, 1919-1920.)
- PETERS, J. L. A new Jay from Alberta. (Proc. N. Engl. Zoöl. Club, vii. pp. 51-52.)
- RILEY, J. H. Four new birds from the Philippines and Greater Sunda Islands. (Proc. Biol. Soc. Washington, vol. xxxiii. pp. 55-58.)
- ROBINSON, H. C., and KLOSS, C. B. On a collection of Birds from N.E. Sumatra. (Journ. Straits Branch R. A. Soc. no. 80, pp. 73-133.)
- ROBINSON, H. C., and KLOSS, C. B. On the proper name of the Red Jungle Fowl from Peninsular India. (Rec. Indian Mus. xix. pp. 13-15.)
- STRESEMANN, E. Avifauna Macedonica. (München, 1920.)
- SWARTH, H. S. The subspecies of *Branta canadensis* (Linnæus). (Auk, xxxvii. pp. 268-272.)
- TAVERNER, P. A. Birds of Eastern Canada. (Ottawa, 1919.)
- TAVERNER, P. A. The Birds of the Red Deer River, Alberta. (Auk, xxxvi. pp. 1-21, 248-265.)
- TAVERNER, P. A. Bird-houses and their occupants. The Birds of Shoal Lake, Manitoba. (Ottawa Nat. xxii. and xxiii.)
- TODD, W. E. C. Preliminary diagnoses of apparently new South American Birds. (6 reprints from Proc. Biol. Soc. Washington, vols. xxviii.-xxxii.)
- TOWNSEND, C. H., and WETMORE, A. Reports on the scientific results of the Expedition to the tropical Pacific in charge of Alexander Agassiz on the U.S. Fish Commission Steamer 'Albatross,' etc. Birds. (Bull. Mus. Comp. Zoöl. lxiii. pp. 151-225.)
- WARREN, E. R. Bird notes of a stormy May in Colorado Springs. (Condor, xxi. pp. 62-65.)
- WETMORE, A. Lead poisoning in Waterfowl. (Bull. no. 793, U.S. Dept. Agriculture.)
- WETMORE, A. Notes on the structure of the palate in the Icteridæ. (Auk, xxxvi. pp. 190-197.)
- WOOD, C. A. The eye of the Burrowing Owl. (Contrib. Med. Biol. Res., dedicated to Sir Wm. Osler, 1919.)
- Aquila. (Vols. xxi.-xxv. 1914-1918.)
- Austral Avian Record. (Vol. iv. nos. 1-3.)
- Auk. (Vol. xxxvi. nos. 1-3.)

- Avicultural Magazine. (Vol. xi. nos. 3-9.)  
 Bird-Lore. (Vol. xxii. nos. 1-4.)  
 Bird-Notes. (3 ser. vol. iii. nos. 1-8.)  
 British Birds. (Vol. xiv. nos. 1-4.)  
 Brooklyn Museum Quarterly. (Vol. vii. nos. 2-3.)  
 Bull. Soc. Zool. Genève. (Vol. ii. fasc. 13-18.)  
 Canadian Field-Naturalist. (Vol. xxxiv. nos. 1-2.)  
 Club van Nederl. Vogelkund. Jaarber. (No. 10, pts. 1-2.)  
 Condor. (Vol. xxii. nos. 1-4.)  
 El Hornero. (Vol. i. no. 4.)  
 Fauna och Flora. (1920, nos. 1-4.)  
 Gerfaut. (Vol. x. fasc. 1-2.)  
 Irish Naturalist. (Vol. xxix. nos. 1-9.)  
 Journ. Fed. Malay States Mus. (Vol. ix. pt. 1; vol. x. pt. 1.)  
 Journ. Mus. Comp. Oology. (Vol. i. nos. 3-4.)  
 Journ. Nat. Hist. Soc. Siam. (Vol. iii. no. 4; vol. iv. no. 1.)  
 Orn. Monatsber. (Vol. xxviii. nos. 9-10.)  
 Rev. Museu Paulista. (Vol. xi.)  
 Rev. d'Hist. nat. appl. L'Oiseau. (Nos. 1-8.)  
 Rev. Française d'Ornithologie. (Nos. 130-137.)  
 Scottish Naturalist. (Nos. 99-104.)  
 South African Journal of Nat. Hist. (Vol. ii. no. 1.)  
 South Australian Ornithologist. (Vol. v. nos. 1-3.)  
 Tori (The Aves). (Vol. ii. no. 9.)

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XXXVII.—*Letters, Extracts, and Notes.*

**The Last Phase of the Subspecies.**

SIR,—The student entering upon the study of systematic ornithology to-day will find much diversity of opinion respecting the status of the subspecies. One author would have “practical subspecies,” another “sane subspecies,” and another, subspecies *ad infinitum*. One would partially suppress subspecies by placing their names beneath bold specific captions, and another would eliminate subspecific names from captions and make “pronouncements” in the body of the text. After nearly half a century of the theory and practice of subspeciation, the result is this confusion of tongues. The cause is not far to seek; for the subspecies is the outcome of incomplete investigation.